

US -PAT -NO:

5734487

DOCUMENT -

US 5734487 A

IDENTIFIER:**TITLE:**Computer system incorporating an infrared link for
reduced interference communication with a radio
transceiver

Detailed Description Text - DETX (15):

Additionally connected to the microcomputer 202, is a transmit tables and state machine block 210. The transmit block 210 includes the tables and state machines necessary to convert from the binary serial data stream provided via the microcomputer 202 to real and imaginary digitized binary values which are transmitted using the LEDs 12 and 14. It is well known to those skilled in the art that typical analog wave forms such as those often used in modem communications can be described in terms of real and imaginary components. The transmit module 210 includes look-up tables properly encoded to provide the appropriate real and imaginary digitized bit stream representative of the particular analog function which would otherwise result from the modem or other desired function of the computer unit CU1 and CU2. For example, if the computer unit CU1 and CU2 were to emulate a modem, the microcomputer 202 would provide a serial bit stream of the modem data to the transmit block 210. The transmit block 210 would then appropriately convert each serial bit or series of bits into a series of digitized bits representative of the particular analog signal that would otherwise result if conventional modem processing were developed. In the preferred embodiment, each bit of data provided from the microcomputer 202 in a modem environment is converted to 12 digitized voltage samples, with each sample having a resolution of 8 bits. It is understood that this is done for each of the real and imaginary components, which are then respectively provided through the LEDs 12 and 14. As the preferred transmission rate using the LEDs 12 and 14 is approximately 2 Mbits per second, this provides an effective data rate of approximately 20 kbps, which is effectively the limit for most available radio channels and protocols.